

## Evaluating Speed Limit Policy Impacts in Michigan: Summary of Research Results

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## Nationwide Policy Debate



## Recent Speed Limit Increases - Nationwide Findings

- Increases have generally occurred on select segments (i.e., not system-wide)
- Feasibility determined based on engineering studies, evidence, and data
  - 85th percentile speeds
  - Realistic, reasonable, and appropriate speed limits
- Too soon for safety analysis
- Unknown economic impacts

## Introduction

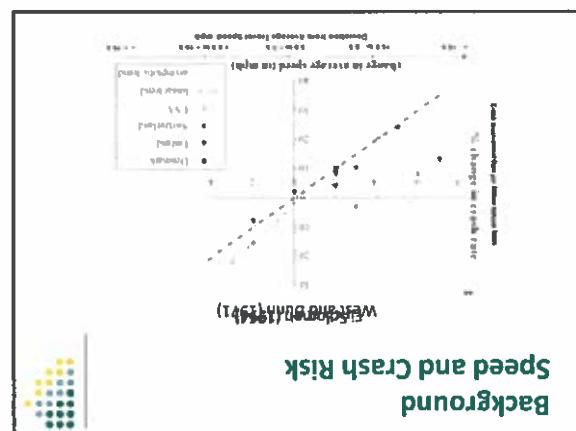
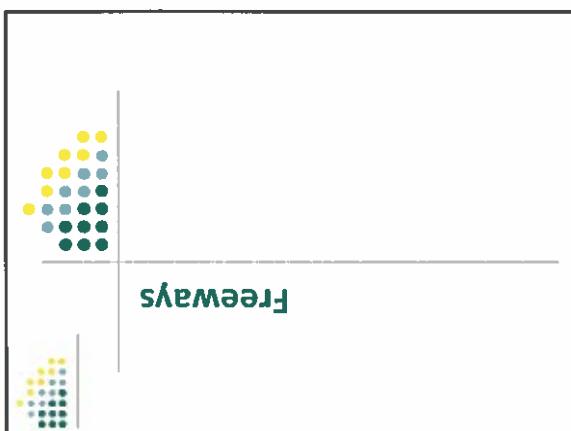
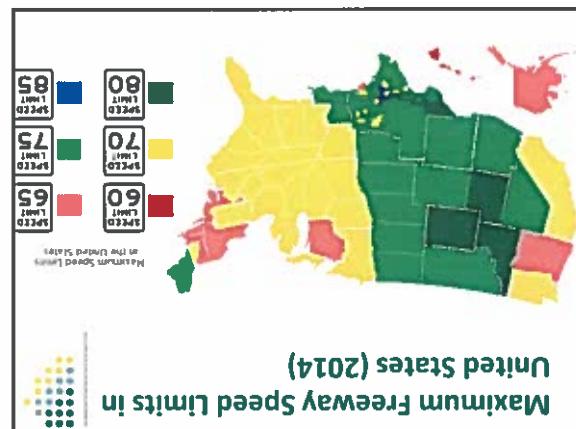
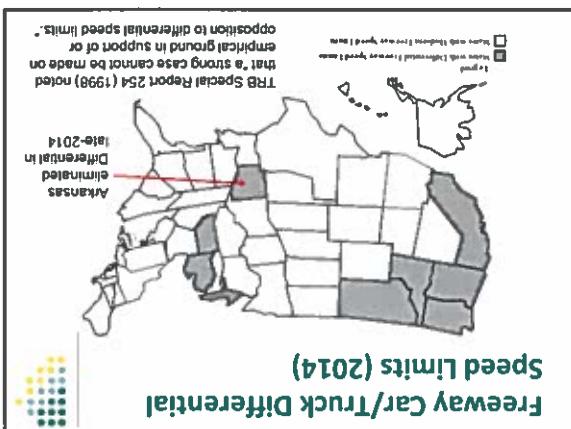
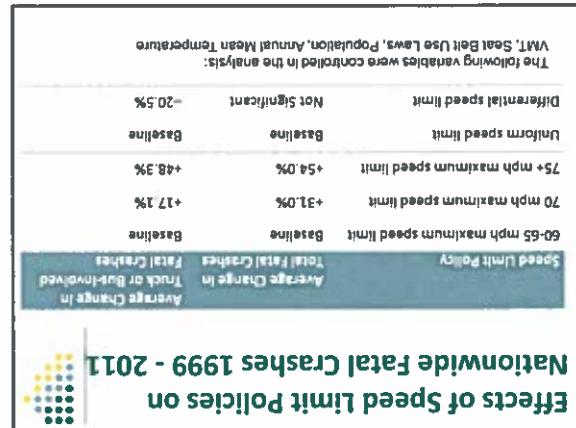
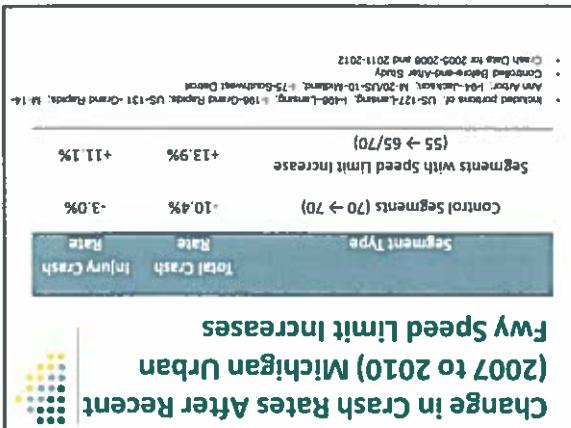
- Recent legislation introduced to increase speed limits in Michigan
  - Rural Freeway General Speed Limit of 80 mph
  - Urban Freeway General Speed Limit of 70 mph
  - Truck/Bus Freeway Speed Limit of 70 mph
  - Trunk Line General Speed Limit of 65 mph
- MDOT research project to examine speed limit policy impacts
  - Initial Scope (02/13): Increasing truck speed limit
  - Scope Increase (11/13): Increasing maximum speed limit
  - Scope Increase (07/14): Prioritization of non-freeways

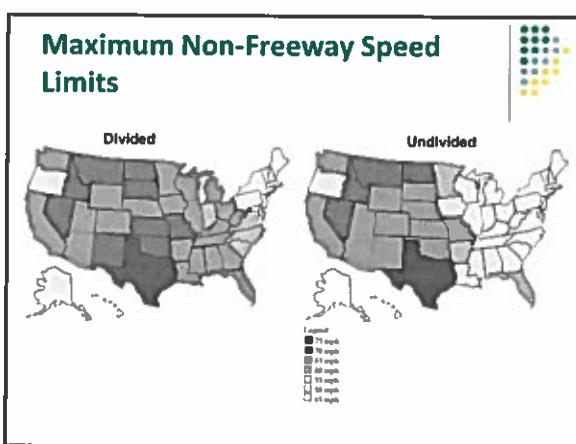
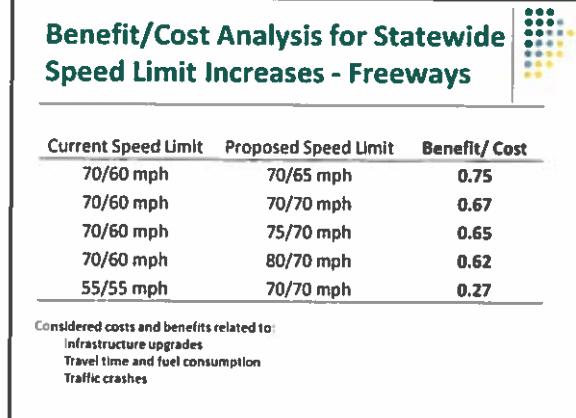
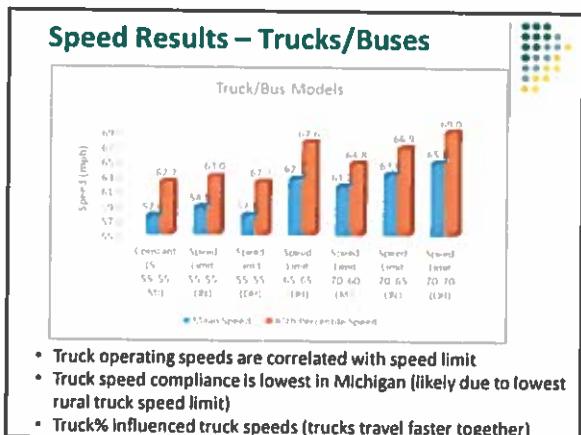
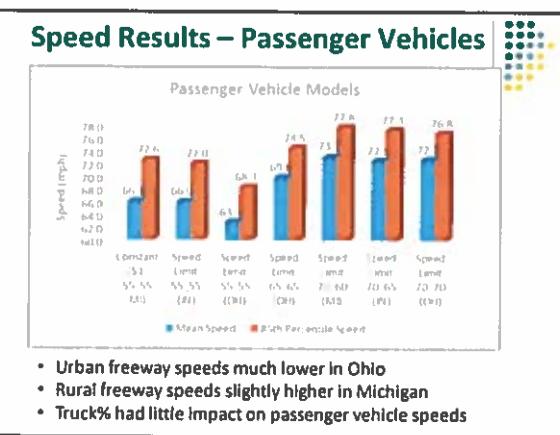
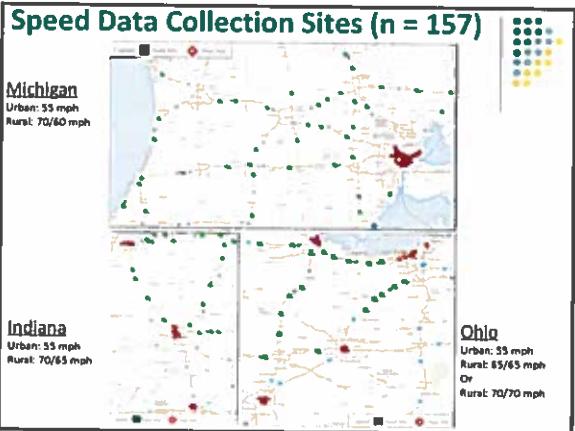
## Recent Policy Changes Nationwide

State	Type of Roadway	Prior Limit(s)	New Limit(s)	Year
Ohio	Ohio Turnpike	65	70	2011
Louisiana	Select Rural Freeways	70	75	2011
Kansas	Rural Freeways	70	75	2011
Indiana	Tollway	55	70	2012
Arkansas	Select Rural Highway	55	60; 65	2012
Texas	Rural Freeways; Tollway	75; 80	80; 85	2012
Kentucky	Select US Highway	55	65	2012
Ohio	Select Rural Highways	65	70	2013
North Carolina	Select Rural Freeways	65	70	2013
Utah	Select Rural Freeways	75	80	2013
Alaska	State Highway	55	65	2013
Georgia	Select Interstates	55	65	2013
Illinois	Tollway; Select Freeways	55; 65	70	2014
New Hampshire	Select Interstates	65	70	2014
South Carolina	Select State Highways	55	60	2014
Pennsylvania	Rural Freeways	65	70	2014
Maine	Select Interstates	55; 65	60; 70	2014
Wyoming	Select Interstates	75	80	2014

## Background Impacts of Policy on Safety

- Safety impacts of important Federal actions
  - 1974 – 1987
    - 55 mph maximum speed limit on all U.S. roadways
    - Traffic fatalities decreased by ~7,500 annually
  - 1987 – 1995
    - 65 mph allowed on rural interstates
    - Traffic fatalities increased by 29 percent
  - 1995 – present
    - Maximum speed limits controlled by states
    - More than 12,500 total additional fatalities (through 2005)





## Non-Freeways – Benefit/Cost Analyses – Speed Limit Implementation Recommendations

- Avg. speeds estimated to increase by 3.4 mph
- Travel time decreases by 5.5 - 5.7 %
- Fuel consumption increases by 4.6 - 5.0 %
- Value-of-time savings outweight fuel costs by:
- 1.06 for heavy trucks (\$0.0019/mile)
- 2.98 for passenger vehicles (\$0.0113/mile)
- Increasing the speed limit to 65 mph is expected to increase the total crash rate by 3.3% AND shift the crash severity towards more severe injuries

## Selection of Candidates

- For non-freeways, candidate locations may include:
  - Low crash history
  - Lower volumes (generally uncongested)
  - Favorable roadway geometry (high design speeds)
  - Lower interchange density
  - Few characteristics that pose safety risk (curves/hills, driveways, schools, intersections, SRZs, NPZs)
- For non-freeways, candidate locations may include:
  - High 85th percentile speed/low speed variance
  - Lower historical crash/injury occurrence
  - For non-freeways, candidate locations may include:
    - Lower crash history
    - Lower volumes (generally uncongested)
    - Favorable roadway geometry (high design speeds)
    - Few characteristics that pose safety risk (curves/hills, driveways, schools, intersections, SRZs, NPZs)

## Implementation Recommendations

- Systemwide application of increased maximum speed limits (freeways or non-freeways) is not desirable from a safety or economic standpoint.
- Identifiy "lower risk" candidates for implementation
- Perform project-level engineering, operations, safety, and cost assessment prior to final segment selection
- Can't ignore federal design standards
- Semis will generally not travel above 65 - 68 mph

65 mph Trunkline Speed Limit Implementation Scenario	8/C	
Scenario 1: Candidates with Min. Infrastructure Upgrades	1.23	(Portions of MI-28 and US-2)
Scenario 2: Candidates Requiring No Major Relighting	1.12	Scenarios Requiring No Major Relighting
Scenario 3: All Candidates	0.94	
Scenario 4: MDOT Systemwide 55mph	0.77	

## User Benefits and Costs – 55 mph to 65 mph

